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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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April 27, 1992

Received

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SUPPLEMENTAL

Mr. Dean Fowler, Project Manager  
Utility Division  
Spokane County Public Works  
N. 8111 Jefferson Street  
Spokane, WA 99260-0180

RE: Ecology/EPA Review of Preliminary Groundwater Monitoring  
Plan for Phase II

Dear Mr. Fowler:

Ecology and EPA have completed their review and have enclosed comments with this letter. The plan is adequate but proposes six monitoring wells instead of the eight stipulated by the Consent Decree. The two wells not presently included in the plan will be held in reserve and their location and schedule of installation, if needed, will be determined by Ecology and EPA.

Rationale for the location of certain wells must be provided to insure that the locations are consistent with the Consent Decree. As the design of the compliance monitoring well system is based on a non-pumping scenario, additional monitoring wells may be required if groundwater flow paths during pumping deviate from the monitoring system. Specific comments follow:

MONITORING WELL PLAN

- 1) The Consent Decree calls for eight monitoring wells to be installed to evaluate the west interception system, but the plan proposes only six be installed. While Ecology and the EPA have no compelling reason to add two wells to the present design, we believe that deleting two wells from the project would not constitute good management nor would it meet the intent of the Consent Decree. We therefore require that two monitoring wells be kept in reserve. The location and schedule for installation of the two reserve wells is at our discretion.
- 2) Two wells, CD-44, CD-45, which are proposed to serve as down gradient wells in order to comply with the Consent Decree are located in a crossgradient location as depicted in Figure 2-3. Please explain in a separate section the rationale for the location of these wells, and how the rationale is consistent with the intent of the Consent Decree.

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- 3) Three wells, CD-42, CD-41, and (proposed) CD-48, which are proposed to serve as monitoring wells upgradient of water supply wells in order to comply with the Consent Decree, are shown in Figure 2-3 to be nearly three thousand feet upgradient of the supply wells. Please explain in a separate section the rationale for these three wells, and how the rationale is consistent with the intent of the Consent Decree.
- 4) Please explain the rationale for not putting any monitoring wells southeast of (proposed) well CD-48. It would appear from figure 2-3 that if CD-44 and CD-45 are to serve as northern cross gradient wells, then there should be two southern counterpart wells to the southeast of (proposed) CD-48.
- 5) Please either explain in section 2.1.2. why it is not practicable for the monitoring well system to achieve the technical criteria listed in section 2.1.2. or reference each section of the report where criteria for the monitoring well system deviates from the technical criteria in section 2.1.2. In reading through the report it was not clear where criteria deviated from technical criteria.
- 6) Regarding the south system, the next to the last paragraph on page 2-3 states that (proposed) well CP-S2 is to be used as an extraction well and a cross gradient monitoring well. Please explain how this dual purpose well is consistent with the Consent Decree.
- 7) In Figure 2-1, (proposed) CP-S2 is shown as being located inside the plume. Locating a compliance monitoring well inside the plume, upgradient and near the pumping wells, may subject the well to increased levels of contamination due to the effects of the pumping wells. As the Consent Decree stipulates that certain actions must be taken depending on measured contamination in compliance monitoring wells, it would seem that the location of CP-S2 carries risk in regard to action.  
  
What action(s) are envisioned if contamination above action levels is observed in CP-S2?
- 8) Please explain Figure 2-2 and Figure 2-3, and highlight in the text the reason(s) for the different configuration of contours in figures.
- 9) Why is the design of the compliance monitoring system for the pumping system (i.e., cross gradient and downgradient monitoring wells) based on a non-pumping scenario in Figure 2-3 rather than a pumping scenario in 2-2?

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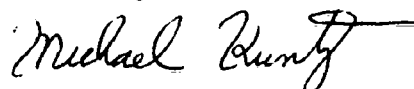
- 10) Has any consideration been given to the pumping scenario of Figure 2-2 in designing the monitoring system?
- 11) If the pumping system deflects the groundwater flow paths such that the compliance monitoring system is not deemed to be adequate by the governments, then the governments will require the installation of additional monitoring wells. Wells required to meet inadequacies will not be considered reserve wells noted in Comment No. 1.
- 12) Although the text describes an east extraction system, the east system is not shown in any of the figures. Please show east extraction system in a figure, and refer to the figure in the text.

The following are comments by the EPA.

	<u>Page</u>	<u>Section</u>	<u>Comment</u>
13)	1-5	1.2.2	Fluvial Unit is stated as being treated as an independent hydrogeologic unit for the project, but then is combined into Upper Aquifer in constituent distribution (page 1-7).
14)	2-1	2.1.1	Although monitoring in east extraction system is not required, a considerable amount of information may be obtained from periodic monitoring.
15)	3-2	3.1	As previously recommended in Phase I monitoring well installation comments, the casing used for sealing the aquitard after step-down should be left in place to provide additional protection between aquifer units.

If you have any questions about these comments, please telephone Neil Thompson or me.

Sincerely,



Michael Kuntz

MK:ln  
Enclosure

cc: Neil Thompson, EPA